

New England Power Company
Docket No. D.T.E. 04-4
Responses to the Department's Third Set of Information Requests

Information Request DTE 3-2

Request:

Please refer to the Petition at 1, AJM at 3, and DTE 2-6. The Company has indicated that the existing substation occupies approximately 1.6 acres of land, that approximately 3.1 additional acres of land will be used for substation expansion, and that the substation fence would enclose 4.12 acres of land after expansion. Please state, confirm, or clarify the area of the existing substation, the amount of expansion in Phase 1, the amount of expansion in a later phase, and the ultimate size of the substation area, so as to provide a consistent set of numbers. Also, if different, state, confirm, or clarify areas within the substation fenceline.

Response:

The footprint of the existing substation fence is 1.6 acres. The proposed fence expansion will enclose an additional 2.52 acres for a total of 4.12 acres within the fence limits. The 3.1 acres was an estimate of the additional proposed fence limits and associated grading outside the fence.

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Information Request DTE 3-3

Request:

Please refer to Exhibit AJM-2R. What is the acreage of gravel on the Company's property (a) currently; (b) following Phase 1 construction, and (c) following the ultimate proposed substation buildout?

Response:

We interpret the term "gravel" to mean crushed stone inside the limits of the fence.

- (a) Currently there are approximately 1.46 acres of gravel surface within the existing fence.
- (b) There will be approximately 1.34 acres of additional gravel surface after the expansion (phase 1 and ultimate buildout) for a total gravel surface of approximately 2.8 acres. Phase 1 construction and ultimate buildout refer to electrical equipment installations, not to site preparation. The total expanded fence limits needs to be done at one time to support the electrical phase 1.
- (c) 2.8 acres. No additional site work is required to support the ultimate buildout.

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Information Request DTE 3-4

Request:

Please refer to DTE 2-43. Is there a change in the area of impermeable driveway surface area *inside* the fence, along with the indicated reduction *outside* the fence?.

Response:

Additional pavement is proposed inside the fence limits. The small reduction in pavement outside the fence is a result of expanding the fence in the direction of the existing driveway. A summary of the pavement areas is provided below.

	<u>Existing</u>	<u>Proposed</u>
Pavement inside fence	0.12 acres	0.79 acres
Pavement outside fence	0.33 acres	0.32 acres

Prepared by or under the supervision of: Daniel McIntyre, P.E.

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Information Request DTE 3-6

Request:

Please refer to the Petition at 2, pages 4 & 5 of Exhibit DML, and DTE 2-16. Is the Company's case that it needs to expand the Wachusett Substation based solely on addressing the "post-contingency overload at Sandy Pond No. 236 Substation which could result in cascading overloads of 345-115 kV transformers throughout New England"? Please explain.

Response:

It is the primary reason, but not the only reason. The secondary reason is that it eliminates low voltages problems at several substations in the Central Massachusetts transmission system:

1. Pratts Junction substation (230 kV) - Sterling Massachusetts.
2. Chaffins substation (69 kV) - Holden Massachusetts.
3. Cooks Pond substation (69 kV) - Worcester Massachusetts.

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Information Request DTE 3-7

Request:

NEP evaluated three potential solutions to the contingency of losing one 345-115 kV transformer at Sandy Pond. Please explain whether adding a third transformer at Sandy Pond would be another way to address this contingency.

Response:

Both a third and fourth 345-115 kV transformer at Sandy Pond were considered. However, installing the additional transformation at Sandy Pond would not solve the voltage problems described in the previous paragraph. Therefore, this option was removed from consideration.

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Information Request DTE 3-8

Request:

Please refer to the Petition at 2, pages 4 & 5 of Exhibit DML, and DTE 2-16. If the existing HVDC facility at Sandy Pond will be ramped down following loss of one of the 448 MVA transformers, will that avoid the cascading overloads scenario? Please explain.

Response:

Yes. If one of the 448 MVA transformers fails at Sandy Pond, and the remaining 448 MVA transformer overloads, the 2000 MW HVDC facility at Sandy Pd can be ramped down to eliminate the overload. Eliminating the overload will avoid the cascading overload scenario mentioned in DTE 2-16.

Prepared by or under the supervision of: Dean M. Latulipe, P.E.

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Information Request DTE 3-9

Request:

Please refer to the Petition at 2 and DTE 2-18.

- a. How many transformers are needed at Wachusett to address the post-contingency overload of one 448 MVA transformer at Sandy Pond?
- b. Please explain why the additional transformers proposed for the ultimate buildout are necessary.

Response:

- a. Two
- b. At some point in the future, due to normal load growth or system changes (e.g. addition of 345 kV line or generator in area), it is likely that the two 448 MVA transformers at Wachusett station will not be sufficient to maintain system reliability. When such a point comes, additional 345-115 kV transformation may be needed in the area. It is possible that this additional 345-115 kV transformation will be needed at Wachusett station itself. To accommodate that possibility, the ultimate arrangement of Wachusett station will be designed to accommodate a total of four 448 MVA transformers.

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Information Request DTE 3-10

Request:

Please refer to Exhibit DM at 2, DTE 2-22A, Att., and DTE 2-35. Do the results of the perc test indicate that site soils are suitable for a septic system?

Response:

Yes, the soils are suitable for a septic system. The soils in the proposed septic area are more fully described in the attached boring log and test pit log (Attachment 3-10).

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Information Request DTE 3-11

Request:

Please explain how substation construction will affect traffic and how any traffic impacts be mitigated.

Response:

The substation is located on a major local road (Route 140) in West Boylston. The entrance to the site is in an area characterized by only a few abutters and rather large lots such that the area is not congested. The sight lines in both directions along Route 140 are good for both entering and exiting the site.

Construction traffic would be generated by material delivery trucks. With the exception of the haul trucks required during site preparation, the delivery trucks for the building material, pole structures and electrical equipment would be intermittently spread over the entire construction phase.

It is estimated that approximately 11,000 cubic yards of fill are required to be brought on site to complete the yard preparation. This would require approximately 440 haul trucks. The site preparation is divided into two distinct phases so these trucks would not occur all at one time during the construction schedule. The 900 foot driveway is more than adequate to stage haul trucks so as not to impact Route 140. No trucks will be parked or staged on the street. In addition, at the start of the site preparation phases we will contact the West Boylston Police to discuss the work. If deemed necessary by the police department, we will provide police details or signage at the driveway entrance during the site preparation phases.

No formal construction traffic plan is proposed or required due to the location of the project.

Prepared by or under the supervision of: F. Paul Richards and Daniel McIntyre, P.E.

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Information Request DTE 3-23

Request:

Please describe the precautions that the Company will take relative to site security during construction including measures to prevent the public, including children, from accessing any construction areas.

Response:

There is a chain link fence and gate at the Temple Street entrance. This gate will be locked when no work is occurring at the site. The work area will be posted with "No Trespassing" signs. The sediment basin will be enclosed with temporary construction fencing. The existing substation fence will remain in tact to prevent access to the energized substation yard.

Once site preparation is complete, permanent and temporary fencing will be installed around the expanded yard to secure the area during equipment installation.